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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,733	06/26/2003	Joshua Oen	884.869US1	6513
21186	7590	04/07/2005		
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402			EXAMINER CHEVALIER, ALICIA ANN	
			ART UNIT	PAPER NUMBER
			1772	
DATE MAILED: 04/07/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/607,733

**Applicant(s)**

OEN, JOSHUA

**Examiner**

Alicia Chevalier

**Art Unit**

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 23-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Claims 1-30 are pending in the application, claims 23-30 are withdrawn from consideration due to Applicant's election, in the response filed January 10, 2005 in response to the restriction requirement mailed January 02, 2004.

#### *Election/Restrictions*

2. Applicant's election without traverse of Group I, claims 1-22, in the reply filed on January 10, 2005 is acknowledged.

3. Claims 23-30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on January 10, 2005.

#### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-7, 9, 10, 14, 15, 17, and 19-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Dinter et al. (U.S. Patent No. 5,759,649).

Regarding Applicant's claims 1 and 14, Dinter discloses an apparatus (*plastic packaging, title*) comprising a heat source (*packed product, col. 2, lines 25-28*), a heat sink (*atmospheric air*

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*out side of the packaging, figure 5)* and a unitary layer of electrically non-conductive material (*inner layer, col. 2, lines 46-50*).

The electrically non-conductive material is deemed to have a first surface that is adjacent the heat sink and deemed to have a second surface adjacent the heat source. The material further comprises a plurality of openings communicatively (*col. 2, line 34*) coupled between the first surface and the second surface and the combined area of the plurality of openings are deemed to comprise a selected percentage of the first surface (*figure 2 and 3*).

Regarding Applicant's claims 2 and 3, Dinter discloses that selected ones of the plurality of openings comprise a regular geometric shape which is substantially circular (*figure 3*).

Regarding Applicant's claims 6, 7, 21 and 22, using the spacing and size of the openings (*col. 3, lines 14-18*) the area of the openings was calculated to be between 0 and 100%. This range encompasses both of Applicant's claimed ranges "at least about 90% of the first surface" and "no more than about 95% of the first surface."

Regarding Applicant's claims 9 and 15, Dinter discloses that the electrically non-conductive material is a polymer (*col. 2, lines 54-56*).

Regarding Applicant's claims 10 and 17, Dinter discloses a thermal interface material located between the unitary layer of electrically non-conductive material and the heat sink (*container outer layer, col. 2, line 37*).

Regarding Applicant's claim 19, Dinter discloses that the heat source comprises a die (*filling tube, col. 2, line 25*).

Regarding Applicant's claim 20, Dinter discloses that the heat sink comprises a heat spreader, since atmospheric air dissipates, i.e. spreads heat.

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6. Claims 1, 2, 8, 12, 13, 14, 16 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Crandall et al. (U.S. Patent No. 5,474,827).

Regarding Applicant's claims 1 and 14, Crandall discloses an apparatus (*article of wearing apparel, col. 10, lines 7-17*) comprising a heat source (*wearer/human, i.e. body heat*), a heat sink (*atmospheric air*) and a unitary layer of electrically non-conductive material (*glass microspheres, col. 7, lines 44-45*).

The electrically non-conductive material is deemed to have a first surface that is adjacent the heat sink and deemed to have a second surface adjacent the heat source. The material further comprises a plurality of openings communicatively (*spaces between microspheres, figure 1*) coupled between the first surface and the second surface and the combined area of the plurality of openings are deemed to comprise a selected percentage of the first surface (*figure 1*).

Regarding Applicant's claim 2, from figures 3A and 3B in Crandall it can be seen that the openings between the microspheres have a regular geometric shape, substantially diamond shaped with curved edges.

Regarding Applicant's claim 8, Crandall discloses wherein the combined area of the plurality of openings comprises a selected percentage of the first surface and the second surface, wherein the selected percentage of the second surface is different from the selected percentage of the first surface (*figure 1*). Due to the curvature of the microspheres the opening area is greater on the second surface of the unitary layer than the first surface.

Regarding Applicant's claim 12, Crandall discloses that the electrically non-conductive material is a plurality of glass beads (*col. 7, lines 44-45 and col. 13, line 10*).

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Regarding Applicant's claim 13, Crandall discloses a thermally conductive material located in selected ones of the plurality of openings, the thermally conductive material selected from at least one of a solid, a liquid, and a paste (*reflective metal, col. 7, lines 59-61 and figure 1*).

Regarding Applicant's claim 16, Crandall discloses that the unitary layer has substantially uniform thickness of about 0.05 mm, since the reference discloses that the microspheres have a diameter, i.e. thickness, of about 30-200 micrometers (*col. 7, lines 50-52*), which is equivalent to 0.03-0.2 mm.

Regarding Applicant's claim 20, Crandall discloses that the heat sink comprises a heat spreader, since atmospheric air dissipates, i.e. spreads heat.

7. Claims 1-5, 7-9, 11, 14-16, 20 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Hisanaka et al. (U.S. Patent No. 6,117,524).

Regarding Applicant's claims 1 and 14, Hisanaka discloses an apparatus (*skin-contactable sheet for disposable diapers and sanitary napkins, col. 1, lines 7-9*) comprising a heat source (*wearer/human, i.e. body heat*), a heat sink (*atmospheric air*) and a unitary layer of electrically non-conductive material (*composite web, col. 6, line 18*).

The electrically non-conductive material is deemed to have a first surface that is adjacent the heat sink and deemed to have a second surface adjacent the heat source. The material further comprises a plurality of openings communicatively (*apertures and liquid guiding passages, figure 5*) coupled between the first surface and the second surface and the combined area of the plurality of openings are deemed to comprise a selected percentage of the first surface (*figure 5*).

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Regarding Applicant's claims 2-5, Hisanaka discloses that selected ones of the plurality of openings comprise a regular geometric shape which is substantially circular or square, or irregular geometric shape (*figure 5*).

Regarding Applicant's claims 7 and 22, Hisanaka discloses that the combined area of the plurality of openings comprises not more than about 95% of the first surface (*col. 6, lines 30-31 and figure 5*).

Regarding Applicant's claim 8, Hisanaka discloses wherein the combined area of the plurality of openings comprises a selected percentage of the first surface and the second surface, wherein the selected percentage of the second surface is different from the selected percentage of the first surface, since the reference shows that the polymeric web has additional apertures not in the fibrous layer (*figure 5*).

Regarding Applicant's claims 9 and 15, Hisanaka discloses that the electrically non-conductive material is a polymer (*col. 5, line 1 and col. 5, line 51*).

Regarding Applicant's claim 11, Hisanaka discloses that the electrically non-conductive material is a non-woven material (*col. 5, line 51*).

Regarding Applicant's claim 16, Hisanaka discloses that the unitary layer has substantially uniform thickness of about 0.05 mm (*col. 4, line 17*).

Regarding Applicant's claim 20, Hisanaka discloses that the heat sink comprises a heat spreader, since atmospheric air dissipates, i.e. spreads heat.

8. Claims 1, 2, 4, 9, 14, 15, 18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Brady et al. (U.S. Patent No. 6,140,146).

Regarding Applicant's claims 1 and 14, Brady discloses an apparatus (*apparatus, col. 3, line 33*) comprising a heat source (*integrates circuit including a transponder, col. 3, lines 45-51*), a heat sink (*atmospheric air*) and a unitary layer of electrically non-conductive material (*flexible tape or film, col. 3, lines 61-62*).

The electrically non-conductive material is deemed to have a first surface that is adjacent the heat sink and deemed to have a second surface adjacent the heat source. The material further comprises a plurality of openings communicatively (*aperture, col. 4, 47*) coupled between the first surface and the second surface and the combined area of the plurality of openings are deemed to comprise a selected percentage of the first surface (*figure 3a*).

Regarding Applicant's claims 2 and 4, Brady discloses that selected ones of the plurality of openings comprise a regular geometric shape which is substantially square (*figure 3a*).

Regarding Applicant's claims 9 and 15, Brady discloses that the electrically non-conductive material is a polymer (*col. 5, line 1 and col. 5, line 51*).

Regarding Applicant's claim 18, Brady discloses that the heat source comprises an integrated circuit package including a transponder (*col. 3, lines 45-51*).

Regarding Applicant's claim 20, Brady discloses that the heat sink comprises a heat spreader, since atmospheric air dissipates, i.e. spreads heat.

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Chevalier whose telephone number is (571) 272-1490. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:00 pm.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink that reads "Alicia Chevalier". The signature is written in a cursive, flowing style.

Alicia Chevalier

3/31/05